Canadian Javelin Limited

Report on the J-13 Claim Group

Mortimer & Edwards Townships, Ontario

Introduction:

This report describes the work conducted by and for Canadian Javelin Limited on a group of 32 unpatented mineral claims situated in the south central portion of Mortimer and the north central portion of Edwards townships, Larder Lake Mining Division, District of Cochrane, Ontario.

These claims were staked by Canadian Javelin Limited in April and May 1964 and have been designated, by the company, as the J-13 claim group.

Purpose:

The purpose of this report is to describe and

evaluate the exploration activities conducted on the J-13 claim group during the 1964 field season.

Location and Access:

The following approximately forty acre claims,

L-82566-97 inclusive,

are registered in the name of Canadian Javelin Limited, 100 Bronson Avenue, Ottawa 4, Ontario, with the Ontario Department of Mines, Larder Lake Mining Division Recording Office, Kirkland Lake, Ontario.

The sub-division of Edwards and Mortimer townships (centres of which are respectively about 6 and 12 miles north of Iroquois Falls) has been annulled. However, if the townships were sub-divided, the J-13 claim group would lie in the northernmost quarter of Concession VI, Lots 6 & 7, Edwards township, and Lots 6 & 7 Concession I and the southernmost 3/4 of Concession II, Mortimer township.

An excellent gravel road, belonging to the Abitibi Power and Paper Company, extending northward

from Iroquois Falls to the Stimson Station on the C.N.R. northern line, passes within ½ mile of the western boundary of the property. In order to use this road, however, one must obtain a daily or monthly permit from the Abitibi Company in Iroquois Falls.

Topography and Cover:

The ground in the J-13 claim group is generally flat and moderately well drained, consequently, extensive swamp areas are not present. The surface rights are held by the Abitibi Company which has cut over a portion of the ground and maintained a cover of spruce, fir, pine, poplar and birch on the remainder.

Field Program:

The J-13 claim group was staked by Canadian Javelin in April and May 1964, consequently no field work has been conducted on this property, by or for that company.

An airborne geophysical survey was conducted

over the claim group during the month of June 1964, and this phase of the exploration program indicated that two fairly significant electromagnetically anomalous zones were present on the J-13 claim group. However, a ground geophysical program was deferred to a later date in favor of more encouraging results obtained on the J-10 claim group, which lies about 3 miles to the south in Edwards township.

A reconnaissance geological traverse was, however, made across the outcrop area of this property during the 1964 season.

Airborne Survey:

A total of 16 line miles of airborne magnetic and electromagnetic survey was flown within the confines of the J-13 claim by Canadian Aero Mineral Surveys Ltd., Hunt Club Road, Ottawa, during the month of June 1964. A DeHaveland Otter carrying the appropriate geophysical equipment flew north-south lines at 1/8 mile intervals and at a 150 to 200 foot altitude.

The electromagnetic data was interpreted by A. R. Rattew, author of the report entitled, "Airborne Geophysical Survey of the Edwards, Reid and Thorburn Township Areas for Canadian Javelin Limited by Canadian Aero Mineral Surveys Limited, Project No. 4026, 28th July 1964". This report carries the Canadian Javelin file number 312.

The airborne survey indicated two fairly significant conductive zones, "6" and "7", lying wholly within the J-13 claim group. Canadian Aero Mineral Surveys states:-

> "Zones 4, 5, 6 & 7 consist of single-line broad quadrature anomalies. The possibility exists that surface conductors are the source of one or all of these anomalies, but in all cases there are reasons to suspect some bedrock conductivity contrast." (1)

The magnetic data has been transcribed from the airborne magnetic tapes and plotted on the enclosed map at a scale of 1/4 mile to the inch.

The reduction, plotting and interpretation of the magnetic data was performed by Canadian Javelin

(1) Page 7, C.A.M.S. Report #4026

personnel with the approval of Canadian Aero Mineral Surveys Limited.

The recorded magnetic values range from 3000 to 4000 gammas, contrasting with a range of approximately 700-800 gammas as presented on the Edwards township portion of the Department of Mines and Technical Surveys Aero Magnetic Map No. 302-G, The Iroquois Falls Sheet.

Geologic Interpretation:

A zone of north-south striking, steeply easterly dipping outcrops, of Archean basic and intermediate volcanic and metasedimentary rocks is located in the southern half of the J-13 claim group.

The magnetics, although broad and uniform, suggest that the above mentioned outcrops are a northern occurrence of the same rock types found about 4 miles to the south in the J-10 claim group and the consistent occurrence of the north-south trending diabase dike, in both the J-10 and J-13 claim groups substantiates the magnetic interpretation.

Minor occurrences of pyrite and pyrrhotite are associated with the diabase, andesite contact zones in the southern portion of this property, and drilling on the J-10 group indicated the presence of considerable, though non-economic, sulfide mineralization.

There are no outcrops located in the vicinity of the electromagnetic anomalies numbered "6" and "7", however, the presence of sulfide mineralization in the outcrops to the south is suggestive that the above-mentioned anomalies could easily be produced by the presence of sulfide mineralization in rocks which lie beneath the overburden.

Conclusions:

The J-13 claim group has not been examined with ground geophysical units but an airborne magnetic survey indicated the presence of two conductive zones. Although these zones do not represent outcrop areas, the presence of sulfide mineralization in the outcrops about 3/4 of a mile to the south, and the opinions of

Canadian Aero Mineral Surveys, make these anomalies rather attractive for further investigation.

Recommendations:

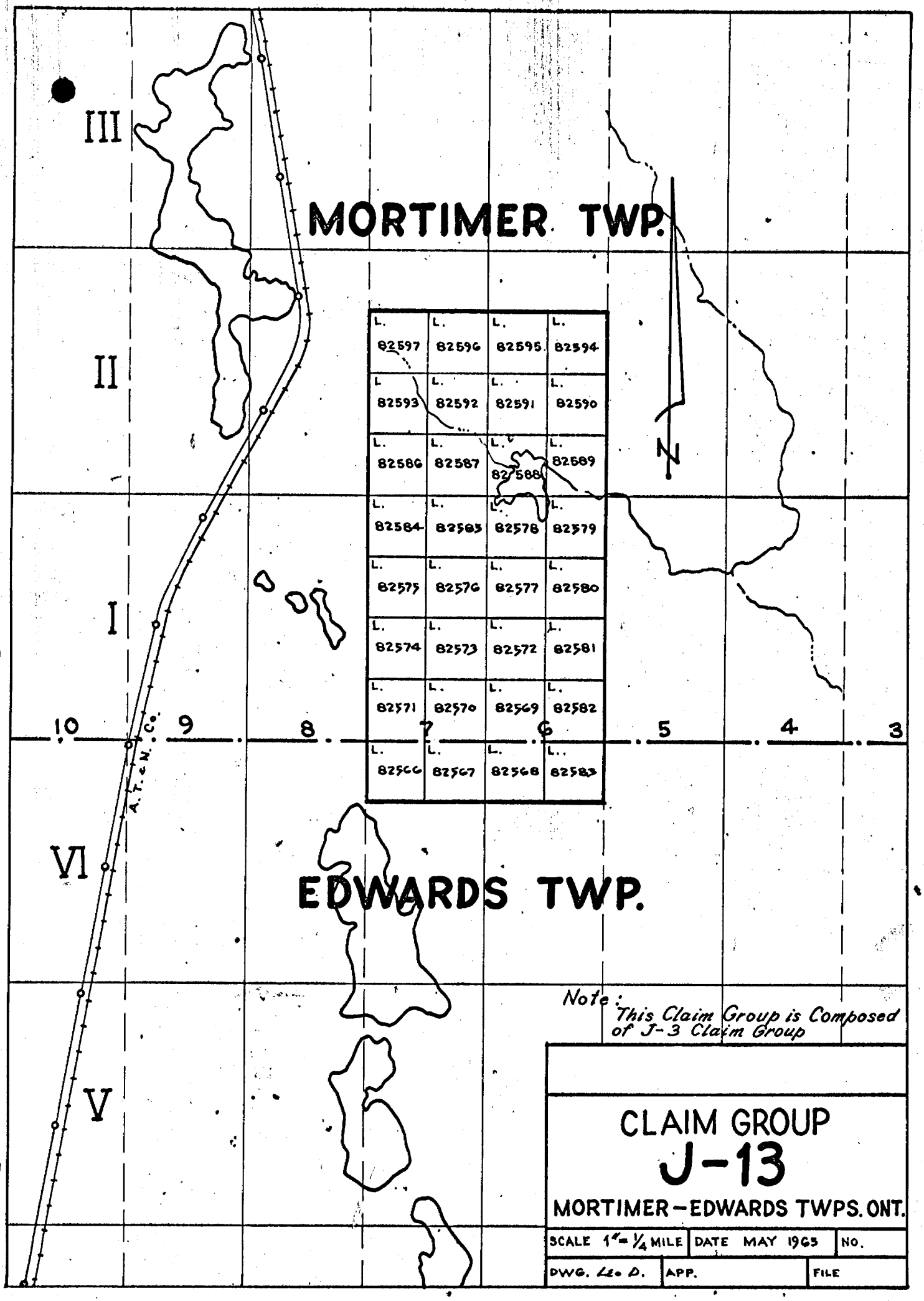
It is recommended that a series of east-west lines, at no less than 400 foot intervals, be cut on this property and that a vertical loop electromagnetic survey be initiated to outline as many conductive zones as possible.

This program would entail approximately 30 miles of linecutting, and would undoubtedly provide one or more diamond drill targets for the ensuing field seasons.

Respectfully Submitted,

Wm. B. Blakeman,
Geologist,
B.A. Geology.

20 April, 1965



Note: This Claim Group is Composed of J-3 Claim Group

CLAIM GROUP
J-13
MORTIMER-EDWARDS TWPS. ONT.

SCALE 1" = 1/4 MILE	DATE MAY 1963	NO.
DWG. Leo D.	APP.	FILE

AIRBORNE GEOPHYSICAL SURVEY
OF THE
EDWARDS, REID AND THORBURN TOWNSHIP AREAS,
FOR
CANADIAN JAVELIN LTD.

I. INTRODUCTION

A combined airborne EM and magnetometer survey has been completed for Canadian Javelin Ltd. over three blocks of ground in the Timmins area of Ontario. The aircraft employed was the Canadian Aero Mineral Surveys Limited geophysically-equipped de Havilland Otter, registration CF-IGM.

The areas surveyed are described as the Edwards Township, Reid Township and Thorburn Township blocks. The final areas laid out by Canadian Javelin field personnel differ somewhat from the original areas described in the contract of May 12, 1964, especially the Edwards block which was enlarged appreciably. The final line-mileage flown totals 700.2 line-miles, distributed as follows:

Edwards Township block	-	358.8	line-miles
Reid Township block	-	225.7	line-miles
Thorburn Township block	-	115.7	line-miles

In all three areas, the line-spacing was 1/8-mile and the mean terrain clearance, 150 feet.

The survey began on May 16, 1964, and was completed on July 11, 1964.

Canadian Aero Mineral Surveys Limited field personnel associated with this project were as follows:

G. A. Curtis	--	Electronic Technician and Project Manager
E. Jensen	--	Pilot
D. Smith	--	Pilot
T. Appleton	--	Pilot
J. D. Lloyd	--	Aircraft Mechanic
R. Sarsfield	--	Aircraft Mechanic
K. McLeod	--	Navigator
D. Graham	--	Electronic Operator
D. J. Sarazin	--	Data Analyst
G. Granger	--	Draftsman

The project was supervised by A. R. Rattew, P.Eng., author of this report.

Details of the equipment carried on the Otter and an explanation of the recorder charts are provided in Appendix II. Appendix III describes our anomaly rating and anomaly listing procedures.

The airborne EM data are presented on three separate sheets at the scale of one inch equals ½-mile. An air-photo laydown provides the base for the EM maps.

II. GEOLOGY

Geological information on these areas is scarce. They are deeply covered by drift for the most part.

The Reid and Thorburn areas are covered by the Ontario Department of Mines preliminary map P.139 at the scale of one inch equals two miles. Most of the Edwards Township block is covered by D.D.M. preliminary maps P.152 and P.153 at one inch equals ¼-mile.

In the few outcrops which do exist a wide variety of Precambrian rocks have been mapped. They include acidic to basic volcanics, acidic and basic intrusives, quartzite, amphibolite and various gneissic rocks.

One sulphide showing with minor chalcopyrite is reported in the western part of Edwards Township.

III. RESULTS

All EM anomalies have been assigned numbers which are shown on the maps and in the anomaly list, Appendix I. These numbers consist of the line upon which the anomaly occurs, plus letters A, B, C, etc., from south to north or from east to west. Additionally, the main zones of conductivity are assigned reference numbers on the map sheets to facilitate discussion in this report (numbers 1, 2, 3, etc.).

The "x" category of anomaly rating is reserved for questionable anomalies and for anomalies which are suspected of being due to surface conductors. Because the Timmins area has great economic potential, we include on the maps, any feature from the EM charts which has a reasonable chance of being a legitimate anomaly.

In many parts of the Timmins area, the overburden has a fairly high conductivity, yielding substantial quadrature anomalies. Most of these quadrature anomalies are broad and smooth and many correlate clearly with swamps; these are readily discarded. The sharper quadrature anomalies could derive from either low-conductivity bedrock conductors or narrow, conducting swamps.

Many of these features are included on the maps, and attention is drawn to the possibility of a surface conductor in the "Comments" column of the anomaly listing or in the text of this report.

Edwards Township Area

Seven zones of anomalous conductivity have been numbered on this sheet. All of them but one, (zone 3), consist of single-line anomalies. Additionally, there are eleven "x-type" anomalies designated only by their anomaly numbers.

Zone 1 is a triple-peaked anomaly occurring in the vicinity of known sulphide mineralization. The direct magnetic correlation on the centre anomaly suggests an appreciable pyrrhotite content, and there may be a slight magnetic anomaly on the northern peak as well.

Zone 2 is a very weak, multiple anomaly, but it is probably legitimate. The O.D.M. geology map shows a north-easterly strike in this vicinity, suggesting that 1 and 2 may, in fact, be the same conductive zone.

The only extensive zone of bedrock conductivity is zone 3, a 3/4-mile-long, multiple-conductor belt. The width of the zone changes drastically from line to line and there is

magnetic correlation with many of the EM anomalies. Chances are good that sulphides will be found in this belt, probably in combination with graphite. The strongest EM response within zone 3 is anomaly 6B.

Zones 4, 5, 6, and 7 consist of single-line, broad, quadrature anomalies. The possibility exists that surface conductors are the source of one or all of these anomalies, but in all cases, there are reasons to suspect some bedrock conductivity contrast. Therefore, in a thorough follow-up programme, these conductors should be explored.

Any of the eleven questionable, "x-type", anomalies could warrant exploration if the geological environment is sufficiently encouraging. Strictly on the basis of the anomaly characteristics, our preference among the questionable features is for anomalies FA, 6A, 24A, 24B, and 34A.

Reid Township Area

Nine zones of anomalous conductivity have been numbered and there are four other "x-type" anomalies shown.

Zones 1, 5, 6, 7, 8, and 9 are definite bedrock conductors. Of these, 5, 6, and 9 appear to be related. Note

that information on zone 9 is incomplete and its position is somewhat uncertain, because it occurs at the end of the lines outside the job boundary.

Zone 8 is a good sulphide prospect, a localized feature of high conductivity with a coincident magnetic anomaly.

Although zone 2 consists of a single, questionable anomaly, we consider that it has a fair chance of being a legitimate bedrock conductor.

Zone 3 is a definite anomaly, but it could derive from a surface conductor rather than a bedrock source.

Zone 4, consisting of strong, broad, quadrature anomalies, is probably a surface conductor. It is stronger than most, however, and is therefore included on the map.

The three "x-type" anomalies 52A, 53A, and 55A, all have similar characteristics: they are in-phase anomalies related to terrain. We consider them poor prospects for bedrock conductivity. Anomaly 60A is also a probable surface effect.

Thorburn Township Area

Five zones of anomalous conductivity have been numbered on this sheet. Of these, we consider zones 1, 2, and 3 definite bedrock conductors, and zones 4 and 5 good possibilities.

Although both the anomalies in zone 4 are questionable, they tend to support each other.

The characteristics of zone 5 are such that it is questioned as a possible surface conductor.

The remaining ten "x-type" anomalies plotted on this sheet are all strongly suspected of being surface effects or noise effects. Our preference among these is anomaly 10A.

IV. SUMMARY AND RECOMMENDATIONS

Due to the economic potential of this area, all definite bedrock conductors warrant exploration. Furthermore, if the local geological environment is considered sufficiently encouraging, any of the questionable anomalies could be worth examination.

The definite bedrock conductors are as follows:

Edwards - 1 and 3.

Reid - 1, 5, 6, 7, 8, and 9.

Thorburn - 1, 2, and 3.

A number of other zones have a good chance of being bedrock conductors and we recommend that they be included on the list for mandatory followup. They are as follows:

Edwards - 2, 4, 5, 6, and 7.

Reid - 2 and 3.

Thorburn - 4 and 5.

There is a considerable variation in characteristics among the more questionable anomalies which we include on the maps.

Strictly on the basis of their geophysical properties, we prefer the following from this group:

Edwards anomalies FA, 6A, 24A, 24B, and 34A.

Thorburn anomaly 10A.

Respectfully submitted,

A. R. Rattew, P.Eng.,
Geophysicist.

OTTAWA, Ontario,
July 28, 1964.

APPENDIX I

PROJECT NO. 4026 - EDWARDS TOWNSHIP AREA

Anomaly	Fiducials	In-Phase Quad	Altitude	Magnetics	Rate	Comments
FA	5974/7	-/80	130	nil	x	
DA	5334/8	-/50	135	nil	x	Probable swamp effect
DB	5391/7	-/60	140	nil	x	Probable swamp effect
CA	5127/33	-/70	125	nil	3	Double, ore peak sharp
BA	5011/3	-/40	145	nil	x	Probable swamp effect
BB	5028/34	-/50	140	Assoc? 40g	3	Possible swamp effect
AA	6582/94	-/100	135	Assoc? broad 200g	3	
AB	6543/7	-/60	140	nil	x	
1 A	2857/61	120/60	140	Dir? 15g	3	Double, strong
1 B	2851/5	40/50	135	Dir.broad 30g	3	Broad - Broader quad
2 A	3018/22	60/120	140	Dir: 40g	3	Double, strong broad quad
2 B	3024/9	-/70	150	Dir:? 60g	3	Broad quad - Double ?
3 A	3343/7	80/60	125	Dir. to N 130g	3	

PROJECT NO. 4026 - EDWARDS TOWNSHIP AREA

Anomaly	Fiducials	In-Phase Quad	Altitude	Magnetics	Rate	Comments
3 B	3340/3	40/200	135	Dir: 150g	3	Strong quad
3 C	3336/40	-/180	135	Dir.broad 120g	3	Strong quad
3 D	3333/6	-/170	140	Dir? 70g	3	
4 A	3508/12	-/90	150	N.Flank 80g	3	Broad - No IP
4 B	3654/65	-/150	145	nil	3	Multiple quad, surface conductor ?
5 A	3828/32	50/40	140	Dir? 20g	3	Double ?
6 A	3978/84	60/-	150	nil	x	Probable manoeuvre noise
6 B	3992/6	120/220	145	Dir. 15g	2A	
6 C	3996/400	40/40	150	Dir. 230g	3	Broad, weak
7 A	4317/21	40/70	150	S.edge 180g Possibly some direct mag.	3	Poor IP, Double ?
11 A	5451/5	40/-	130	Dir. 25g	x	Probable turbulence noise
20 A	8053/60	60/-	120-160	Dir. C 80g	x	No quad. Broad multiple
21 A	8261/4	140/20?	150	S.Flank 100g	2B	

APPENDIX I

PROJECT NO. 4026 - EDWARDS TOWNSHIP AREA

Anomaly	Fiducials	In-Phase Quad	Altitude	Magnetics	Rate	Comments
21 B	8264/6	80/20?	150	Dir: 300g	3	Sharp mag.
21 C	8266/8	50/20?	150	Dir: 15g	3	
23 A	8881/4	30/-	150	nil	x	Doubtful
24 A	9063/6	40/-	150	S.Flank 20g	x	
24 B	8938/41	40/-	150	N.Flank 60g	x	
34 A	2126/9	-/50	140	nil	x	Possible surface effect.

PROJECT NO. 4026 - REID TOWNSHIP AREA

Anomaly	Fiducials	In-Phase Quad	Altitude	Magnetics	Rate	Comments
39 A	4677/80	20/30	160	N.side 80g	x	Weak
40 A	4526/9	30/30	155	N.edge 60g	3	Weak
40 B	4523/6	30/-	150	Dir: 40g	x	IPonly, weak
50 A	2602/5	40/-	155	Dir.broad 300g	x	Good shape
52 A	2357/64	100/-	145	Assoc? 100g	x	Probable surface effect
53 A	2051/6	90/-	140	nil	x	Probable surface effect
53 AB	1995/9	-/80	135	N.Flank 600g	3	Possible surface conductor
54 A	1741/4	-/120	145	nil	3	Possible surface conductor
54 B	1814/9	-/80	135	nil	3	Probable surface conductor
54 C	1861/6	60/20?	145	N.Flank 200g	3	Double ?
55 A	1524/30	80/-	140	nil	x	Probable surface effect
55 B	1501/12	-/140	125	nil	3	Probable surface conductor

PROJECT NO. 4026 - REID TOWNSHIP AREA

Anomaly	Fiducials	In-Phase Quad	Altitude	Magnetics	Rate	Comments
57 A	930/3	20?/40	125	N.Flank 120g	3	Weak
57AA	3313/8	-/120	140	nil	3	Possible surface conductor
57AB	3256/60	60/20?	165	nil	x	Double?
58 A	533/6	60/20	125	nil	3	Broader and weak quad
58 B	520/3	40/40	130	Dir? broad 25g	3	
59 A	447/50	40/30	125	N.edge 60g	3	Broader quad
60 A	0050/3	10/30	130	nil	3	Weak
60 B	0024/9	-/40	125	nil	x	Probable surface effect
65 A	8867/76	40/40	140	Dir. 120g	3	Weak
66AA	7492/5	80/20	135	N.Flank 80g	3	
66 A	3035/8	60/20	155	Dir. 60g	3	Strong
67 A	7481/5	70/40	135	N.Flank 60g	3	

PROJECT No. 4026 - THORBURN TOWNSHIP AREA

Anomaly	Fiducials	In-Phase Quad	Altitude	Magnetics	Rate	Comments
1 A	0137/41	-/50	110	Dir. 100g	x	Probable surface effect
2 A	0211/5	-/50	140	nil	x	Possible surface conductor
4 A	0479/82	-/20	130	Dir. 15g	x	
5 A	0544/7	-/40	130	Dir. 150g	3	
6 A	0697/0701	-/40	140	Dir? 30g	x	
6 B	0712/5	-/30	145	N.Flank 150g	x	
7 A	0754/7	10?/40	145	nil	x	
8 A	987/90	50/20	160	Dir? broad 15g	3	
9 A	1013/6	20/50	140	E.Flank 30g	3	
10 A	1220/3	60/-	135	nil	x	
10 B	1289/92	-/40	160	nil	x	
11 A	1394/7	-/50	115	nil	x	Possible surface effect
12 A	7495/8	90/-	150	Dir. 50g	x	Probable manoeuvre noise
17 A	2648/51	40/40	140	E.edge 150g	3	
18 A	2953/6	40/70	140	E.edge 70g	3	

PROJECT NO. 4026 - THORBURN TOWNSHIP AREA

Anomaly	Fiducials	In-Phase Quad	Altitude	Magnetics	Rate	Comments
19 A	8270/3	20/30	155	Dir? 10g	x	
22 A	8875/8	40/-	160	nil	x	
23 A	8945/8	-/40	150	Dir? broad 40g	x	
29 A	4796/4800	-/40	150	nil	x	Possible surface conductor
29 B	4834/7	-/30	140	Dir. 50g	x	Possible surface conductor
30 A	4900/3	-/40	135	E.Flank 100g	x	
32 A	5148/51	-/50	140	nil	x	Possible surface effect.

PYNE

MORTIMER

J-13

J-12

J-4

J-10

J-11

AURORA

EDWARDS

GABBRO

DIABASE

ZONE

MOSELEY LAKE

FREVE LAKE

ROAD

SEE DETAIL GEOLOGICAL MAP NO. 355A

SEE DETAIL GEOLOGICAL MAP NO 355C

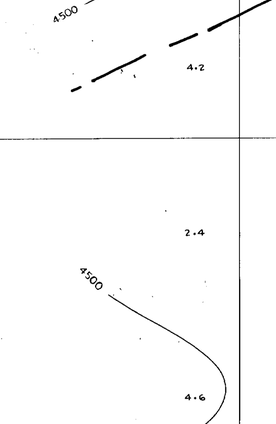
OPEN

BASE LINE

I II III IV V VI

1 2 3 4 5 6 7 8 9 10 11 12

INTERPRETATION OF REGIONAL GEOLOGY



GEOLOGY

1. Diabase
2. Acid Intrusives: Syenite
3. Basic Intrusives: Gabbro
4. Metamorphic rocks: Amphibolite (Ma) Hornblend-feldspar gneiss (Mgn) Garnet gneiss (Mgn-g.)

Sedimentary rocks: Quartzite (Sq.)

Volcanic rocks: Andesite and/or basalt, pillowed (Vapl) agglomerate (Vag.) massive (Vam)

Metasedimentary rocks with hornblende and feldspar porphyroblast. Siltstone (S_s); Greywacke (Sg)

MAGNETIC INTERPRETATION

GAMMA VALUES

200 - 250	
250 - 300	
300 - 350	
350 - 400	
400 - 450	
450 - 500	
500 - 550	
550 - 600	
600 - 650	
650 - 700	

NOTE:

Geophysical data from N-S flight lines at 1/8 mile intervals
Preliminary magnetic reduction by Javelin staff of magnetic data collected by Canadian Aero Miniral Surveys
Magnetic interpretation is based on 1/4 sq. mile average magnetic values with 500 Gamma contour intervals

AERIAL E M

1	A	ANOMALY
1	B	ANOMALY
2	A	ANOMALY
2	B	ANOMALY
3		ANOMALY
X	Type	ANOMALY

CANADIAN JAVELIN LIMITED

[redacted]

AURORA, MORTIMER & EDWARDS TWPS.
J-4, J-10, J-11, J-12 AND J-13 CLAIM GROUPS

SCALE: 1 in. = 1320 ft APPROX	DATE April 1965	NO
DWG. Leo D.	APP. D.K. [illegible]	FILE

JOB BOUNDARY

PYNE

AURORA

MORTIMER

EDWARDS

MOSELEY LAKE

FREVE LAKE

WOOLLEY LAKE

LEFROY LAKE

A.T. & N.C.°

POWER LINE

ROAD

OPEN

T-44 T-40 T-35 T-30 T-25 T-20 T-15 T-10 T-5 T-1 T-A T-E T-H

LEGEND

- 1 A ANOMALY
- 1 B ANOMALY
- 2 A ANOMALY
- 2 B ANOMALY
- 3 ANOMALY
- X Type ANOMALY

MEAN TERRAIN CLEARANCE.....150 FEET
FLIGHT LINE SPACING.....1/8 MILE
RIVERS AND LAKES
HORIZONTAL CONTROL.....BASED ON PHOTO LAYDOWN

AIRBORNE ELECTROMAGNETIC SURVEY

EDWARDS TOWNSHIP AREA

ONTARIO

CANADIAN JAVELIN LIMITED

SCALE : 1 INCH = 1/4 MILE (APPROX.)

J-13

APPROX.

CANADIAN AERO
Mineral Surveys
OTTAWA & TORONTO, ONTARIO

Flown July 10-17, 1964

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C.A.M.S. 4026